exposed portions of said watch and adjacent portions of said band having substantially smooth and flowing contours.

20. (Amended) The snag-free wristwatch system of Claim 24 further including ornamentation incorporated into said watch and said band so as to be visible within the substantially smooth surface and flowing contours of said watch and said band.

A3 cont'd

21. (Amended) The snag-free wristwatch system of Claim 24 wherein said pressure sensitive device for control of said watch is located below and adjacent to elastically deformable indents on the surface of said watch, said indents being snag-free and below the substantially smooth surface of said watch.

A marked up version of prior pending claims 2-10 and 13-21 setting forth the changes made is attached hereto as Exhibit A.

REMARKS

The claims are 2-10 and 13-21 and 23-24. Claims 1 and 12 have been rewritten as new independent claims 23 and 24. Accordingly, claims 1 and 12 have been canceled. Claims 11 and 22 have also been canceled, and dependent claims 2-10 and 13-21 have been amended to depend on new claims 23 and 24, respectively. Other changes have been made to the claims to

improve their form or to eliminate unnecessary verbage. Reconsideration is expressly requested.

Claims 1-10 and 12-21 were rejected under 35 U.S.C. §102(b) as being anticipated by (claims 1, 3, 5, 6, 8-10, 12, 14, 16, 17 and 19-21) or under 35 U.S.C. 103(a) as being obvious over (claims 2, 4, 7, 13, 15 and 18) U.S. Patent No. 4,779,249 to *Rappaport*. The remaining claims 11 and 22 were rejected as obvious over *U.S. Patent No. 5,931,764 to Freeman et al.* Essentially, the Examiner's position is that *Rappaport* shows the invention as recited in claims 1-10 and 12-21 except for the features recited in claims 2, 4, 7, 13, 15 and 18 which were considered within the skill of the art. The Examiner has also taken the position that *Freeman et al.* would have rendered the invention as recited in claims 11 and 22 obvious to one of ordinary skill in the art.

This rejection is respectfully traversed.

As set forth in independent claims 23 and 24, Applicant's invention provides a snag-free wristwatch system which eliminates or vastly reduces the potential to snag on and injure the skin of persons other than the wearer. The system includes a battery operated watch, pressure sensitive controls and the band, all of which have flowing contours and surfaces substantially smooth to

the touch. The watch may be set in the band or be connected to the band with attachment means. In either case, only substantially smooth and flowing contours are presented. The band may be continuous and stretchable or may include snag-free clasp means having substantially smooth and flowing contours when closed. Thus, the snag-free wristwatch system uses only snag-free features free of protruding elements and external stems. As discussed on pages 4 and 7 of the specification, changes in width and thickness of the wristwatch are made gradually and smoothly and bulkiness and protuberances that may snag are avoided. The system is substantially smooth to the touch, and external surfaces are rounded or curved with flowing contours and without excessively high profiles or hard, sharp edges or projections. Avoided are potentially harmful elements of known wristwatches, such as buckles and arrangements using hook and loop fabrics of the type generally known as velcro which can scratch and scrape the skin.

Bulkiness is not permitted in the snag-free wristwatch according to Applicants' invention because on many occasions a thick wristwatch when worn by a person closely "brushing by" will strike and injure another person while a thinner wristwatch will pass clear. Similarly, a wider strap or band presents a wider striking surface making it more likely to strike a person other than the wearer during certain motions, greater width will

generally increase the stiffness of the strap or band, and high profiles and hard, sharp edges and projections are more likely to cause injuries than smooth and flowing contours.

The characteristics of Applicants' snag-free wristwatch make it particularly useful in health care situations, where the normal activities of caring for patients and infants involve so many close contacts for examining, washing, feeding, cradling a limb, and lifting, and also so many opportunities for a bulky wristwatch to come in contact with and scrape or bruise a patient. In hospital environments particularly, wristwatches which are non-smooth may harbor infectious bacteria which the watch itself may deposit in the scratch or wound it caused, leading to further problems. In contrast to watches which are bulky and non-smooth, the design of Applicants' snag-free wristwatch makes it both far less likely to cause injuries and easier to keep clean. It is almost as easy to clean as washing one's hands.

Many health care practitioners recognize the seriousness of this problem and advise their personnel not to wear wristwatches while performing certain tasks. These kinds of rules, however, are difficult to enforce and limited in application. Moreover, despite this long standing need, until Applicants' snag-free

wristwatch, there has been no satisfactory solution to these problems.

None of the cited references provide a snag-free system as recited in claims 23 and 24 or even address the problem of preventing injuries to persons other than the wearer. *Rappaport* seeks to provide an inexpensive disposable wristwatch having at least one sealed chamber containing the watch works and other hermetically sealed chambers which may contain decorative or promotional elements. The wristwatch is constructed by encapsulating the watch works and possibly other decorative elements, in individual chambers formed of thermoplastic materials which are welded perimetrically together to define the enclosing chambers. As shown in FIGS. 1-4, however, *Rappaport's* design does not have "flowing contours and surfaces substantially smooth to the touch" as recited in Applicant's claims 23 and 24. Rather, *Rappaport* has rapid and sudden changes in thickness, discontinuities (as in the notches between the chambers in FIG. 4), and relatively sharp edges and corners. The outside edges of the perimetric welds which form this wristwatch may also present particularly hard edges to persons with whom they may come in contact.

Moreover, *Rappaport* uses a velcro catch to join the ends of his band together (See Column 3, line 7 and FIGS. 1-4). However,

as discussed on Page 1 of Applicant's specification, such catches can scratch and scrape the skin. When closed, the catch is not smooth but rather creates a sharp discontinuity, with a more than doubling of the band thickness, i.e., two thickness of band plus velcro.

In typical designs of velcro catches a longer length of velcro is provided on the portion of the strap which forms the underside of the clasp, when it is closed, than is provided on the end of the strap which forms the top of the clasp, in order to provide adjustment for various sizes of wrists. When this type of closure is worn by a person with a large wrist, however, a length of velcro remains entirely exposed when the clasp is closed, which may also catch and snag.

In contrast, all surfaces of Applicant's system are substantially smooth and flowing. For example, as recited in Applicant's claims 4 and 15, Applicant's system uses a bayonet clasp which is snag-free and presents a smooth joint nearly undetectable to the touch when closed. It is highly unlikely that one skilled in the art would use a bayonet-type clasp in *Rappaport's* system in view of his stated aims to provide a disposable watch that may be used on a beach. The reliability of a bayonet catch in sandy conditions is questionable. In addition, a bayonet catch is far costlier than a velcro catch; it

is not adjustable for various wrist sizes which adds further complications and costs; and its use would complicate *Rappaport's* perimetrically welded arrangement. Because of these factors, the employment of a bayonet catch on a wristwatch intended to be inexpensive and disposable would be counterproductive and inconsistent with *Rappaport's* design premise, which in no way includes being snag-free.

Similarly, *Freeman et al.* is also not directed to a snag-free system. *Freeman et al.* discloses a lightweight wearable multi-function device with a built in display and is intended to improve upon other wearable devices which offer functions beyond the simple display of time. These kinds of functions include pedometric and physiological monitoring for joggers (Column 4, lines 58-65), smart card applications, health care information, cellular messaging services (the device may include a microphone and speaker), and so on (see, generally, Columns 4 and 5 of *Freeman et al.*). Although *Freeman et al.* states that his device "may be narrower than a smart card" (see Column 2, line 56) it is clear that the device is large and bulky and not snag-free as required by claims 23 and 24.

Wristwatches of the types used by hundreds of millions of wearers have display areas of sizes which can be incorporated in flexible bands without fear that they will break during normal

flexing by the wearer. *Freeman et al.'s* device, however, requires a very large display to support and permit usage of the various functions of the device. The *Freeman* display is so large that in order to be incorporated in a wearable and flexible device, the display element itself must be made flexible in order not to fail. See, e.g., Col. 1, line 32 and claim 1 of *Freeman*.

Freeman's FIG. 6 shows his display element with six lines of text. The display area must be adequate to show "medication and medical condition information" (Col. 5, line 1) with their special requirements for readability and clarity, "animation sequences...a videoclip or slide show" (Col. 4, lines 12-15), and "stereoscopic effects" (Col. 5, lines 51-52). All these functions require a large display area and requirements for easy to use controls, which taken together, are major factors in establishing the dimensions of a large and bulky device.

Freeman's FIG. 1 shows a device whose width is relatively large compared to its length, and it is clear from FIGS. 2A and 2B which are section views taken across the strap of the device that the device is large and bulky and hardly snag-free. *Freeman et al.* further uses polymer edging 20 to "add comfort to a wearer" (Col. 3, lines 8-10) which indicates that the device is so large and bulky that users would find it uncomfortable to wear

if the edging was not provided. The polymer edging also presents another surface that could harm a person other than the wearer. As is shown in *Freeman's* drawings, the device uses a clasp having protruding hooks (buckle rails 24) on each side of one end of the strap. The other end of the strap slides under and engages these buckle rails. For this to function, the portion of the strap which engages the rails must be relatively stiff and when engaged the strap must extend beyond the rails so that it can be grasped and pulled away to disengage the clasp. From a snagging perspective, with its protruding buckle rails and protruding strap, this design is potentially dangerous. Alternate clasps include a "peg and hole mechanism" (Column 2, line 38), i.e. a conventional buckle, and velcro, each of which are bulky and non-snag-free.

Because of its bulk, lack of smoothness and protrusions, *Freeman's* device could not be used in situations such as caring for the ill and aged where contact is frequent and the resultant injuries and contusions can be highly dangerous. Moreover, even if a bayonet clasp were incorporated into *Freeman's* device, which is nowhere disclosed or suggested, the device would still have a non-smooth appearance and be overly large and bulky to accommodate the various input keys 18 and electronic devices incorporated in the device.

In *Freeman's* design where no value is attached to snag-free characteristics, his selection of buckle and velcro clasps are appropriate. Though not snag-free, buckle and velcro clasps provide a number of practical advantages over bayonet clasps. They are easily adjustable to a variety of wrist sizes, while the bayonet clasp is not. If *Freeman's* device is made with the bayonet clasp, a single size will not fit all users, while manufacture in multiple sizes will add production, inventory and retailing complications and also added cost penalties. Manufacture of the device with the bayonet clasp will also involve modification to the molded or machined top and bottom layers of the strap 26, 28 (Col. 3, line 11) to accommodate the bayonet clasp components. Uses of buckle and velcro catches are, moreover, widely accepted on heart monitors and wrist-worn devices intended to be sold to joggers and for athletic pursuits, while use of a bayonet catch on such devices, with the added complication of sizing issues, might encounter consumer resistance. Because of these disadvantages and cost penalties, it is highly unlikely that one skilled in the art would use a bayonet clasp on *Freeman's* device.

In summary, claims 1, 11, 12 and 22 have been canceled, claims 2-10 and 12-21 have been amended and new claims 23 and 24 have been added. In view of the foregoing, it is respectfully

requested that the claims be allowed and that the application be passed to issue.

Applicant also submits herewith an Information Disclosure Statement making of record the patents cited in the specification. The *Rappaport* patent, *U.S. Patent No. 4,779,249,* discussed on page 3 has already been made of record by the Examiner.

Respectfully submitted,
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Enclosure: Exhibit A
Information Disclosure Statement

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Assistant Commissioner of Patents, Washington, D.C. 20231, on December 23, 2002.

Maria Guastella